

VECTOR APPLICATIONS

*** Use vectors in trig form!!! ***

Example 1

- Nadia is rowing across a river due north at a speed of 5 miles per hour perpendicular to the shore. The river has a current of 3 miles per hour heading due east.
- a) At what speed is she heading?
- b) What is her bearing with respect to the shore?

Example 2

- An airplane is traveling due east with a speed of 600 miles per hour. The wind blows at 85 miles per hour at an angle of $S 59^\circ E$.
- a) What is the resulting speed of the airplane?
- b) What is the resulting bearing of the plane?

Example 3

- A quarterback running forward at 5 meters per second throws a football with a velocity of 25 meters per second at an angle of 40° with the horizontal.
- a) What is the resultant speed of the pass?
- b) What is the resultant bearing of the pass?